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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,990	FORSTADIUS ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-35 and 37-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *39-42* is/are allowed.

6)☒ Claim(s) *1-4,6-38 and 43-55* is/are rejected.

7)☐ Claim(s) *56,57,58,59,60,61* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 13, 15, 46, 2, 4, 17, 19, 33, 3, 16, 18, 38, 43, 50, 6, 20, 44, 51, 7, 21, 30, 8, 22, 9, 10, 11, 23, 24, 24, 31, 32, 34, 48, 49, 12, 14, 26, 29, 37, 47, 52, 54, 55, are rejected under 35 U.S.C. 102(e) as being anticipated by Plasson et al. (US 6795688 B1).

Regarding Claims 1, 13, 15, 46, Plasson et al. disclose the limitation of method of configuring a short range RF network (recited "short range radio link"; column 7, line 49, "for receiving or transmitting radio signal and RF module is Bluetooth radio" as configuring a short range RF network; Fig. 1, column 8, lines 29 – 44; column 14, lines 47 – 50), the network comprising at least one host computer operating as a host node and at least two wireless transceiver nodes, (recited "low-cost, short-range radio links between personal computer, mobile phones and other devices" as one host computer operating as a host node and at least two wireless transceiver nodes; Fig. 3A, column 7, lines 48 – 51; lines 63 – 67; column 10, lines 33 – 40), each transceiver node having a controller (recited "transceiver is a Bluetooth device comprising a digital component (e.g. a Bluetooth controller" as transceiver node having a controller; Fig. 1, elements 120 and 130; column 8, lines 23 - 28), a data store (recited "a memory unit" as a data

store; Fig.2, element 210; column 9, lines 43 – 50), and at least one transceiver for communicating wirelessly with other host and transceiver nodes (recited "a piconet starts with two connected devices" as at least one transceiver for communicating wirelessly with other host and transceiver nodes; column 7, lines 63 – 67; Fig. 2, elements 190, column 9, lines 59 – 62), each transceiver having a unique identifier (recited "device's access code or numerical address" as each transceiver having a unique identifier; Fig. 4A, element 410; column 12, lines 38 – 40; column 15, lines 5 – 8), the method comprising the steps of: (a) the assigning a predetermined value to a variable n and associating the at least one host with the value of n (recited "device record includes value for different attributes associated with each device in PAN record" as assigning a predetermined value to a variable n and associating the at least one host with the value of n; Fig. 4A, element 410; column 12, lines 38 – 40; column 15, lines 5 – 8); (b) paging all other nodes from the node associated with a value of n (recited "inquiry message followed by a page message, enables the Bluetooth device to discover which other Bluetooth units are in range and what their addresses are" as paging all other nodes from the node associated with a value of n; column 3, lines 43 – 51; column 8, lines 12 – 22; column 14, lines 26 – 52); (c) noting nodes which reply to paging and associating them with a value of (n+1) (column 11, lines 34 – 36; column 17, lines 55 – 67; Fig. 6, element 600, column 18, lines 47 – 51); (d) the making all nodes associated with the value of n or with lower values unresponsive to paging (Fig. 6, column 19, lines 1 – 7); (e) incrementing the value of n (Fig. 6, element 635; column 19, lines 1 – 3); and (f) repeating steps (b) through (e) until no nodes reply to paging (Fig. 6, element 600), Plasson et al. also disclose expressly whereby the network is configured such that (recited "mode of operation implemented in PAN is selected" as the network is configured; column 12, lines 9 – 12) transceiver nodes beyond transmission

range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node (recited "PAN is mobile traveling to a different location, out of range of piconet and into range of device" as transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node; column 11, lines 17 – 32) and in wireless communication with said at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes (recited "device uses information about device 350 or 390 such as the device's access code or numerical address, to identify the type of location at which PAN is located" as at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes Fig. 3A, Fig. 3B; column 12, lines 31 – 46).

Regarding Claims 2, 4, 17, 19, 33, Plasson et al. the method, network of claimed wherein any host node is further a gateway to another network (recited "can provide a bridge to existing data network" as a gateway to another network; column 8, lines 40 – 43; column 14, lines 47 – 50).

Regarding Claims 3, 16, 18, 38, Plasson et al. disclose the limitation of the method of claimed comprising step: (g) repeating steps (a) through (f) with a different host node selected as the host node (Fig. 5, element 500; Fig. 6 element 600; column 18, lines 41 – 67; column 19, lines 1 – 13).

Regarding Claims 43, 50, Plasson et al. disclose the limitation of the method of claimed wherein the RF network is a short-range RF network (recited "short range radio links" as a short-range RF network; column 7, lines 48 – 53).

Regarding Claims 6, 20, 44, 51, Plasson et al. disclose the limitation of the method of claimed wherein the short-range RF network is a Bluetooth network (recited "Bluetooth system" as a Bluetooth network; column 7, lines 48 – 53; lines 61 – 67; column 8, lines 6 – 7).

Regarding Claims 7, 21, 30, Plasson et al. disclose the limitation of the method of claimed wherein if a node comprising at least two transceivers (column 9, lines 59 – 67), the first one to answer paging is designated as a slave transceiver of the RF network (recited "responding device become "slave" units" as answer paging is designated as a slave transceiver of the RF network; column 3, line 48 – 51) and least one of the other transceivers is designated as a master transceiver of the RF network (recited "the master transmits a PAGE message" as a master transceiver of the RF network; column 3, lines 43 – 45), and each transceiver designated as a master does not answer paging (column 3, line 45).

Regarding Claims 8, 22, Plasson et al. disclose the limitation of the method of claimed paging be performed by the master (recited "the master transmits a PAGE message" as paging be performed by the master; column 3, lines 43 – 45).

Regarding Claims 9, 10, 11, 23, 24, 25, 31, 32, 34, 48, 49, Plasson et al. disclose the limitation of the method of claimed wherein a node further including a transceiver for communication with wireless terminals (column 7, lines 61 – 67), whereby a wireless terminal in transmission range of a node may communicate with another wireless terminal in transmission range of a node (recited "the inquiry message enables the Bluetooth device to discover which other Bluetooth units are in range" as a wireless terminal in transmission range of a node may communicate with another wireless terminal in transmission range of a node; column 8, lines 6 – 22).

Regarding Claim 12, 14, 26, Plasson et al. disclose the limitation of the method of claimed wherein each transceiver further has a password associated with it (column 12, lines 38 – 40; column 15, lines 3 – 4), and wherein in step (c), passwords are included in paging (column 15, lines 41 – 46); and a node does not reply to paging unless the password included in paging matches the password associated with the transceiver (column 15, lines 41 – 51, Table 1, Table 2, Table 3).

Regarding claims 29, 37, 47, 52, 54, 55, Plasson et al. disclose the limitation of a self-configuring RF network (Fig. 1, column 8, lines 29 – 44; column 14, lines 47 – 50) comprising a plurality of nodes for communicating wirelessly with other nodes of the RF network, wherein at least one of the nodes is selected as a control node (Fig. 3A, column 10, lines 33 – 40), each node including a control logic (Fig. 1, elements 120, 130; column 8, lines 23 – 28); a data store connected to the control logic (Fig. 2, element 210; column 9, lines 43 – 50); at least one transceiver connected to the control logic and identified by a unique address for communicating wirelessly with other nodes of the network (Fig. 4A, element 410; column 12, lines 38 – 40); a transceiver list database connected to the data store for storing updateable information of all transceivers of the RF network for network configuration (Fig. 4A, column 15, lines 5 – 20); and a dynamic variable linked to the transceiver list database for indicating position of each node in the RF network relative to the control node (column 19, lines 24 – 29); wherein: (a) a transceiver of the control node pages other transceivers in its transceiver list (column 3, lines 43 – 45); (b) a transceiver of the control node detects other nodes within its coverage area according to response of said other transceivers to paging (column 8, lines 12 – 22); (c) the control node's transceiver list is updated according to said response of said other transceivers to paging (column 14, lines 47 –

52); (d) the control logic associates detected transceivers' information in the control node's transceiver list with a current value of the dynamic variable (column 14, lines 1 – 11); and (e) the control logic directs propagating the updated contents of the control node's transceiver list to all detected nodes in the network (column 13, lines 10 – 23); and (f) the control logic of each detected node directs incrementing the dynamic variable (column 19, lines 6 – 7); (g) a transceiver of each node pages other transceivers in its transceiver list; each node detects other nodes within the coverage area of its transceiver according to response of said other transceivers to paging (column 14, lines 26 – 40); (i) each node's control logic directs updating the node's transceiver list according to response of said other transceivers to paging (column 13, lines 10 – 23); (j) the node's control logic associates detected transceivers' information in the node's transceiver list with a current value of the dynamic variable (column 19, lines 6 – 7); (k) the control logic directs propagating the updated contents of each node's transceiver list to all detected nodes in the network (column 13, lines 10 – 23); whereby the network is configured such that (recited "mode of operation implemented in PAN is selected" as the network is configured; column 12, lines 9 – 12) transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node (recited "PAN is mobile traveling to a different location, out of range of piconet and into range of device" as transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node; column 11, lines 17 – 32) and in wireless communication with said at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes (recited "device uses information about device 350 or 390 such as the device's

access code or numerical address, to identify the type of location at which PAN is located" as at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes Fig. 3A, Fig. 3B; column 12, lines 31 – 46).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 27, 28, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plasson et al. (US 6795688 B1) in view of Maletsky (US 6104279).

Regarding claims 27, 28, 35, Plasson et al. disclose the limitation of configuring an access point based RF network, the network comprising a plurality of network nodes for communicating with other nodes (Fig. 3A, column 10, lines 33 – 40). Plasson et al. does not disclose expressly claimed wherein further each transceiver has associated with it a portable machine-readable tag containing the transceiver's unique identifier; associated with the network is a tag reader for reading the machine-readable tags; and step (a) comprises substeps: (a1) presenting each tag to the tag reader; and (a2) transferring each output of the tag reader to the data store of the control node. Maletsky discloses the limitation of claimed wherein further each transceiver has associated with it a portable machine-readable tag containing the transceiver's unique identifier (recited "a plurality of RFIDs (tags) 20 – 28 deployed within the interrogation field of the reader unit" as transceiver has associated with it a portable machine-readable tag containing the transceiver's

unique identifier; column 3, lines 66 – 67, column 4, lines 1 – 10); associated with the network is a tag reader for reading the machine-readable tags (recited "reader unit" as tag reader for reading the machine-readable tags; column 4, lines 1 – 10); and step (a) comprises substeps: (al) presenting each tag to the tag reader (recited "each tag transmits a header to reader unit" as presenting each tag to the tag reader; column 4, lines 34 – 44); and (a2) transferring each output of the tag reader to the data store of the control node (recited " memory location is allocated for storing a user-specified header" as transferring each output of the tag reader to the data store of the control node; column 4, lines 43 – 47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Plasson et al. to include a claimed wherein further each transceiver has associated with it a portable machine-readable tag containing the transceiver's unique identifier; associated with the network is a tag reader for reading the machine-readable tags; and step (a) comprises substeps: (al) presenting each tag to the tag reader; and (a2) transferring each output of the tag reader to the data store of the control node such as that taught by Maletsky in order to provide an RFID tag identification method that minimizes the complexity of the design and implementation of the base station and the RFID comprising the system (as suggested by Maletsky, column 2, lines 57 – 60).

5. Claims 45, 43, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plasson et al. (US 6795688 B1) and Maletsky (US 6104279) as applied to claims 1, 13, 15, 46, 2, 4, 17, 19, 33, 3, 16, 18, 38, 43, 50, 6, 20, 44, 51, 7, 21, 30, 8, 22, 9, 10, 11, 23, 24, 24, 31, 32, 34, 48, 49, 12, 14, 26, 29, 37, 47, 52, 54, 55, 27, 28, 35 above, and further in view of Maletsky (US 6104279) Larsson et al. (US 6535498).

Regarding claim 45, Plasson et al. disclose the limitation of a self-configuring RF network (Fig. 1, column 8, lines 29 – 44; column 14, lines 47 – 50) comprising a plurality of nodes for communicating wirelessly with other nodes of the RF network, wherein at least one of the nodes is selected as a control node (Fig. 3A, column 10, lines 33 – 40). Plasson et al. and Maletsky do not disclose expressly the RF network of claimed wherein the control logic of each node dynamically calculates routes for transmitting messages to the first node including relays through other nodes for nodes not within transmission distance of the control node. Larsson et al. disclose the limitation of the RF network of claimed wherein the control logic of each node dynamically calculates routes for transmitting messages to the first node including relays through other nodes for nodes not within transmission distance of the control node (column 2, lines 1 – 21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Plasson et al. and Maletsky to include the RF network of claimed wherein the control logic of each node dynamically calculates routes for transmitting messages to the first node including relays through other nodes for nodes not within transmission distance of the control node such as that taught by Larsson et al. in order to allow reactive ad-hoc routing protocols to determine whether more optimal routes exist between the source node and the destination node (as suggested by Larsson et al., column 3, lines 66 – 68).

Regarding claims 43, 53, Plasson et al. disclose the limitation of a self-configuring RF network (Fig. 1, column 8, lines 29 – 44; column 14, lines 47 – 50) comprising a plurality of nodes for communicating wirelessly with other nodes of the RF network, wherein at least one of the nodes is selected as a control node (Fig. 3A, column 10, lines 33 – 40). Plasson et al. and

Maletsky do not disclose expressly the RF network of claimed wherein a node not within transmission distance of the control node selects routes to the first node traversing the fewest other nodes. Larsson et al. disclose the limitation of the RF network of claim 40 wherein a node not within transmission distance of the control node selects routes to the first node traversing the fewest other nodes (Fig. 7, column 8, lines 6 – 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Plasson et al. and Maletsky to include the RF network of claimed wherein a node not within transmission distance of the control node selects routes to the first node traversing the fewest other nodes such as that taught by Larsson et al. in order to allow reactive ad-hoc routing protocols to determine whether more optimal routes exist between the source node and the destination node (as suggested by Larsson et al., column 3, lines 66 – 68).

Allowable Subject Matter

6. Claim 39 is allowed over prior art. The above cited references, in single or in combination, do not disclose explicitly the control logic of each node computing an indication of current load carried by the node; each node dynamically transmitting its load indication at least to nodes within its transmission range; and each node dynamically receiving and storing load indications received from other nodes.

Additionally, all of the further limitations in claims 40, 41, 42 are allowable since the claims are dependent upon the independent claim 39.

Claims 56, 57, 58, 59, 60, 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 03/13/2006 with respect to claims 1 – 4, 6 – 35, 37– 61 have been fully considered but they are not persuasive.

Regarding claims 1, 13, 39, Applicant argues reference Plasson do not disclose whereby the network is configured such that transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node and in wireless communication with said at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes. Examiner contends reference Plasson disclosed the network is configured (recited "mode of operation implemented in PAN is selected" as the network is configured; column 12, lines 9 – 12) such that transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node and in wireless communication with said at least one host node become identified and accessible to said at least one host node relaying through said intermediate nodes had actually been interpreted in previous office action (recited "PAN is mobile traveling to a different location, out of range of piconet and into range of device" as transceiver nodes beyond transmission range of the at least one host node but within transmission range of one or more intermediate transceiver nodes accessible to said at least one host node; column 11, lines 17 – 32).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ciotti, Jr. et al. US 6421731 B1 disclose method for routing data packets among the nodes whereby each of the nodes carries out the steps of maintaining a list of nodes which are reachable through the node based on advertisements received from other nodes.
- Meier et al. US 6826165 B1 disclose communications between the host computer and the RF terminals is achieved by using the network of intermediate base stations to transmit the data.
- Lempio et al. US 6831896 B1 teach a network including a host device and a plurality of transceiver beacons for communicating with the beacons to the host.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACL June 20, 2006

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER